

Empowering Students through Alternative Access!

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- **Assistive Technology:** Any item, piece of equipment, or product system used to increase, maintain, or improve functional capacities of individuals with disabilities.
- **Adapted Access:** Any alternative means to special device that allow access to the computer when standard access is barred due to disability.

Remember.....

- Start from least restrictive to more restrictive
- It may take many months/years to establish an access



Least Restrictive to Most Restrictive

- Access computer in most ordinary manner possible
 - Keyguard
 - Accessibility features of Windows
 - Alternative keyboard or mouse
 - Speech recognition
 - Scanning & switch access



Why least restrictive to most restrictive?

- Less accommodations required on job site
- Less training of student and staff
- Less potential malfunctions and complications
- Less complications related to career assessment

Two Types of Keyboard Access

- Direct Selection: Process of physically selecting the keys to be pressed
- Scanning & Switch Access: A selection indicator moves from one character to the next on the computer screen; when the selector rests on the desired character, the user activates a switch to make the selection

Scanning & Switch Access

- Insufficient motor skills for direct selection
 - Range of motion
 - Muscle tone
 - Discreet pointing
- Progressive motor deterioration



To be successful with scanning:

- Ability to initiate a motor movement independently
- Can be arm, head, or other body part
- Understand cause/effect relationships



Demonstration of Scanning & Switch Access

- One-step auto scanning
- Two-step/two-switch scanning

Single switch with Automatic Scanning

- Single switch scanning requires wait time and critical timing to hit the switch



Single switch with automatic scanning

Names					
Black				\$0.00	
ns				\$0.00	
ennett				\$0.00	
nith				\$0.00	
Bell				\$0.00	
le	01		07	\$155.00	
strong				\$0.00	
ings	01			\$45.00	
yer				\$0.00	
ed	01	04		\$120.00	\$30.00

Two Switch or Two Step Scanning

- One switch is the “mover”
- Another switch is the “chooser” or “picker”
- One challenge can be finding another switch site
- Another challenge is training individuals used to automatic one switch scanning
- Two different switches might work best
- Keeps the individual engaged

Step scanning with two switches



Many types of Switches

- Some require only very slight pressure
- Some require moderate pressure to activate
- Some are activated by movement or voice
- Puff/Sip switches are activated by slight changes in mouth pressure
- Switch type and positioning is highly individualized

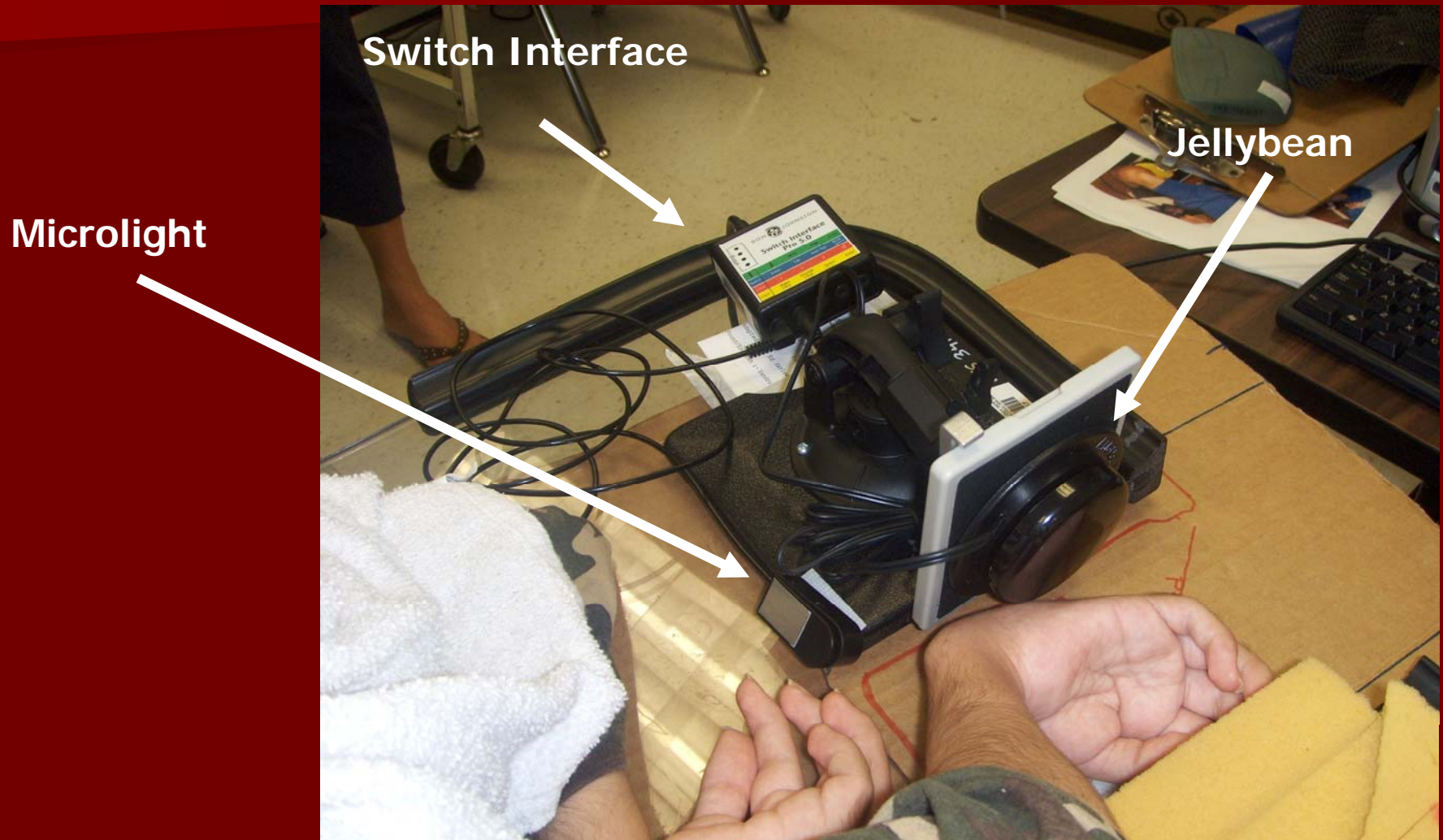
Two step
scanning
with two
jellybean
switches



Two step
scanning
using a
mounted
jellybean
switch and a
Microlight
switch



Two step scanning using a mounted jellybean switch and a Microlight switch





Pillow Switch



Microlight mounted on headrest



Microlight mounted on headrest



Microlight and Jellybean



Discover Software



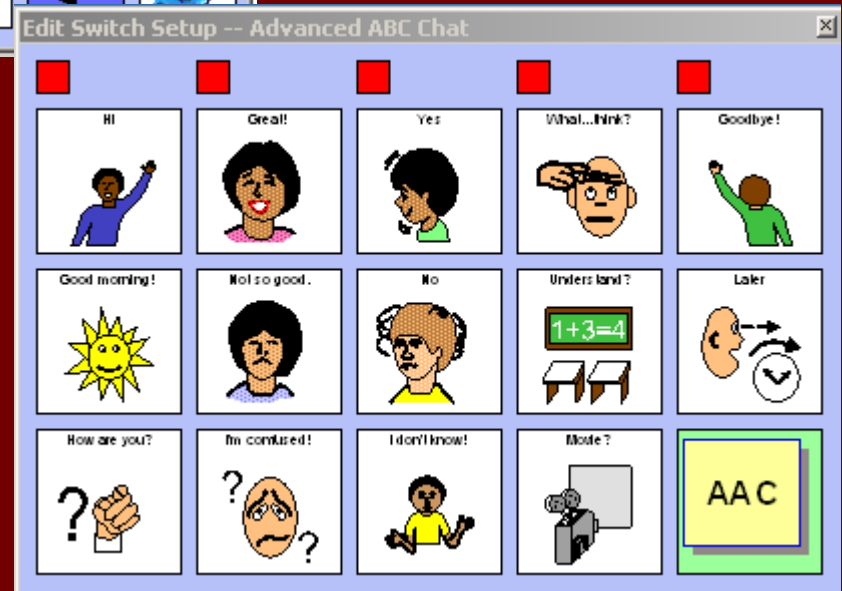
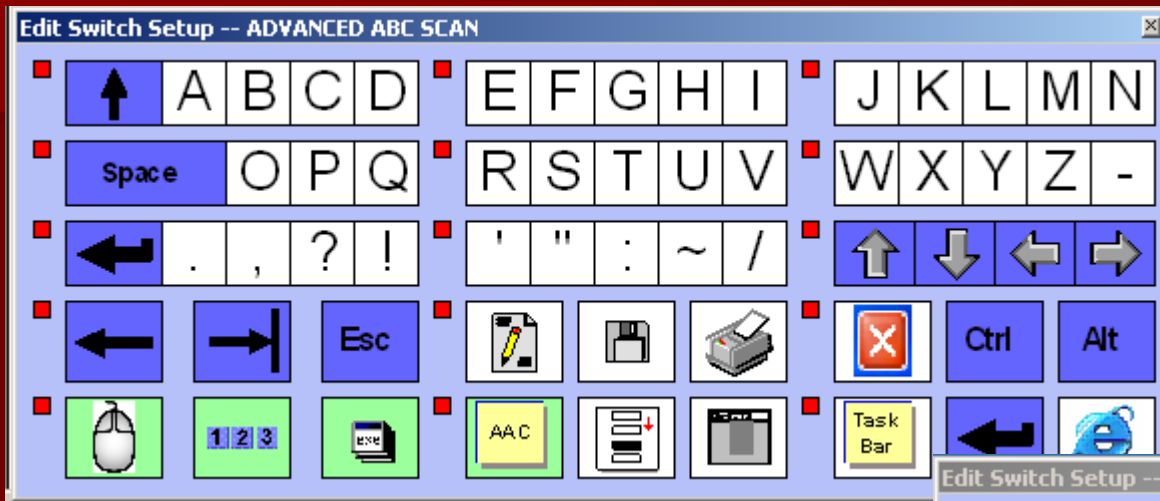
- DiscoverPro is customizable software designed for scanning
- Alternate keyboard or on-screen keyboard access which offers auditory cueing and feedback
- Discover Pro software enables all keyboard and mouse functions to be performed by pressing a switch

Discover Setups

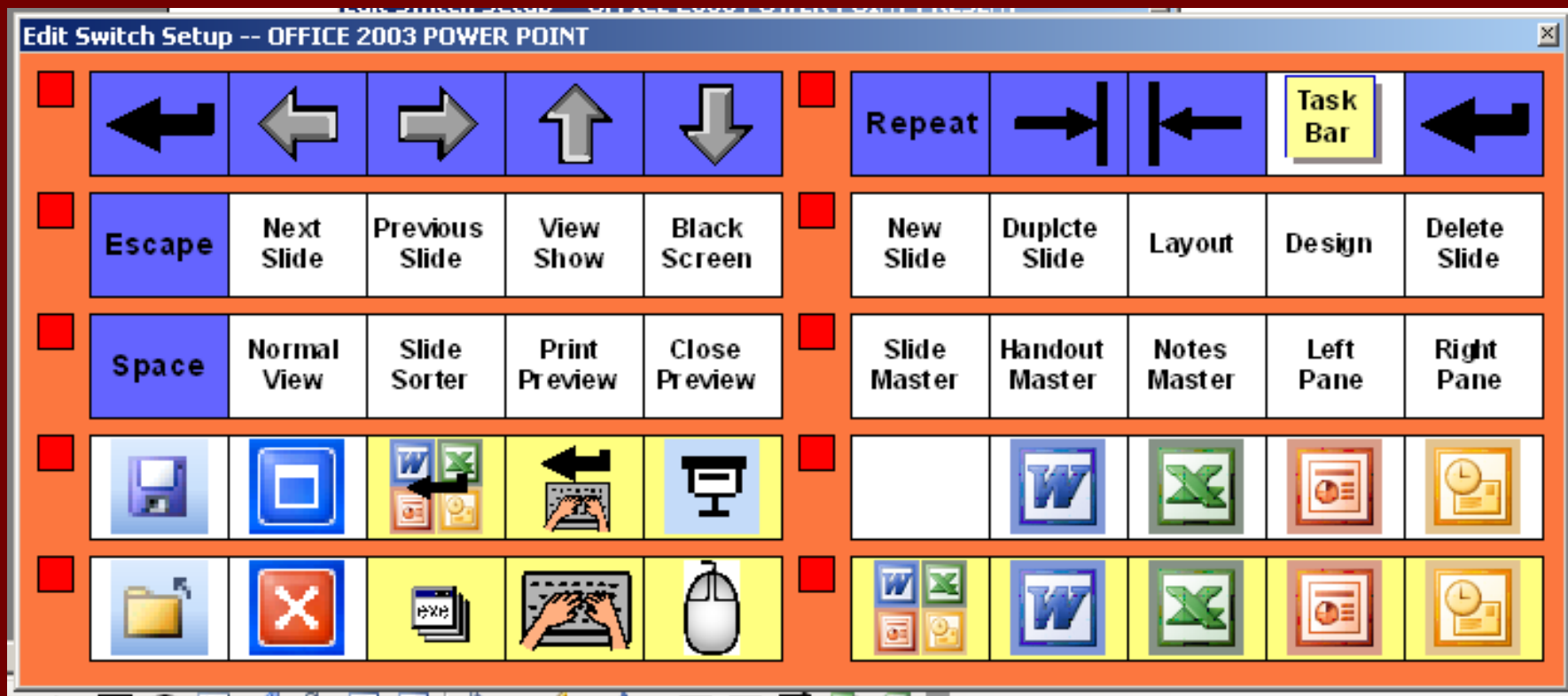
- Variety of standard setups
- Volume 1 & Volume 2 setups are designed for use with specific applications
- Template Maker – allows customized setups



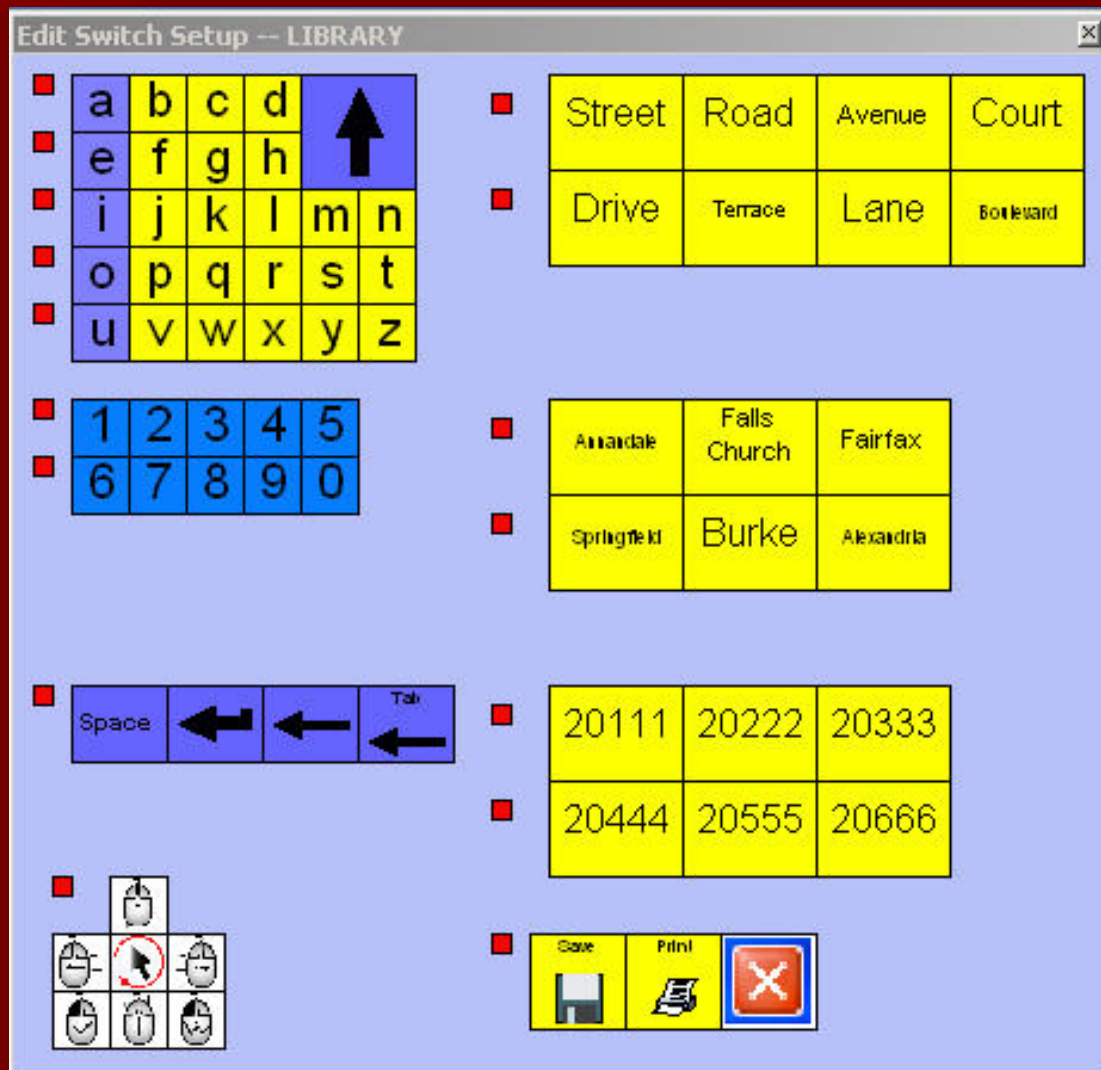
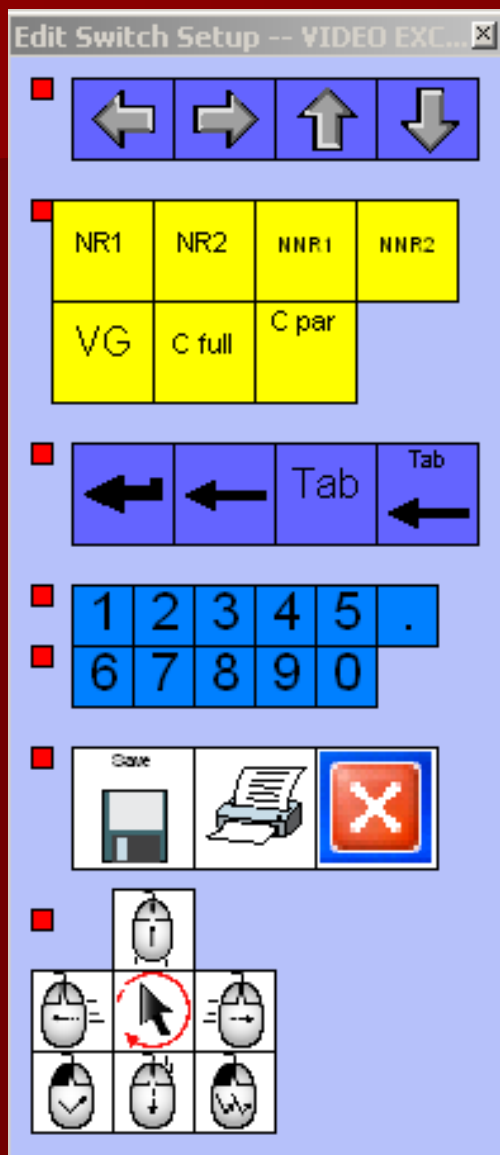
Standard Setups



Volume 1 setups - Office



Customized Setups using Template Maker



Switch Use

Scanning is so
slow....

BUT it is faster
than nothing!

Other software programs have scanning built into their programs

- Boardmaker Speaking Dynamically Pro
- Writing with Symbols
- Word Prediction Programs

Discover works with other applications to provide scanning access

- Microsoft Office Applications
- Don Johnston software (SOLO)
- Screen Readers such as Kurzweil
- Internet Explorer
- Provides mouse movement and any other functions usually done through direct select

Preparing students during transition

- FCPS career and transition programs prepare special education students
 - Community-based work experiences
 - Work Awareness & Transition classes at middle and high school levels
 - Office Technology & Procedures class
 - Career training centers

Exposure & Access Issues for Physically Involved Students

- Very limited exposure to work tasks
- Set up time involved
- Glitches
- Customizing job tasks
- Medical involvement
- Training of student and supervisor, teacher, etc.

Simulate Work Tasks

- Determine what tasks are feasible
- Setup work tasks
- Most involve data entry
- Train student/staff
- Re-evaluate and modify access and tasks
- PRACTICE, PRACTICE, PRACTICE

Determining Tasks

- Using employer generated tasks
 - Data base entry
 - Mailing labels
- Modifying commercial work samples
 - Bookkeeping
 - Clerical detail
 - Data entry
- Class generated data entry tasks

Hand-out for Discover Setups

- Show standard setups that come with program and description
- Handout of Volume 2 – Use with Office Applications
- Custom setups can be made for modified tasks, student needs, eliminate unnecessary scanning

Bookkeeping

Microsoft Excel - Video Store Log.xls

File Edit View Insert Format Tools Data Window Help Adobe PDF

12 fx

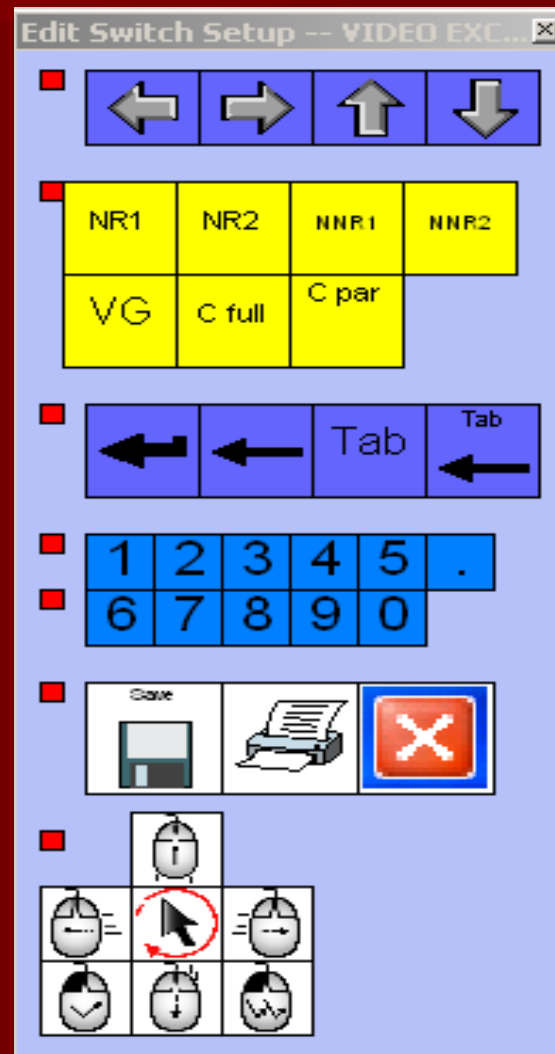
	A	B	C	D	H	I	J
1	Customer	CODE	CODE	CODE	Total Charge	Amount Paid	Balance
2	Betty Joiner				\$0.00		\$0.00
3	Ashley Simms				\$0.00		\$0.00
4	Paul Renolt				\$0.00		\$0.00
5	Susan Cozza				\$0.00		\$0.00
6	Mark Hatfield				\$0.00		\$0.00
7	Joe Cummins				\$0.00		\$0.00
8	George Allen				\$0.00		\$0.00
9	Pat Fisher				\$0.00		\$0.00

Bookkeeping (con't)

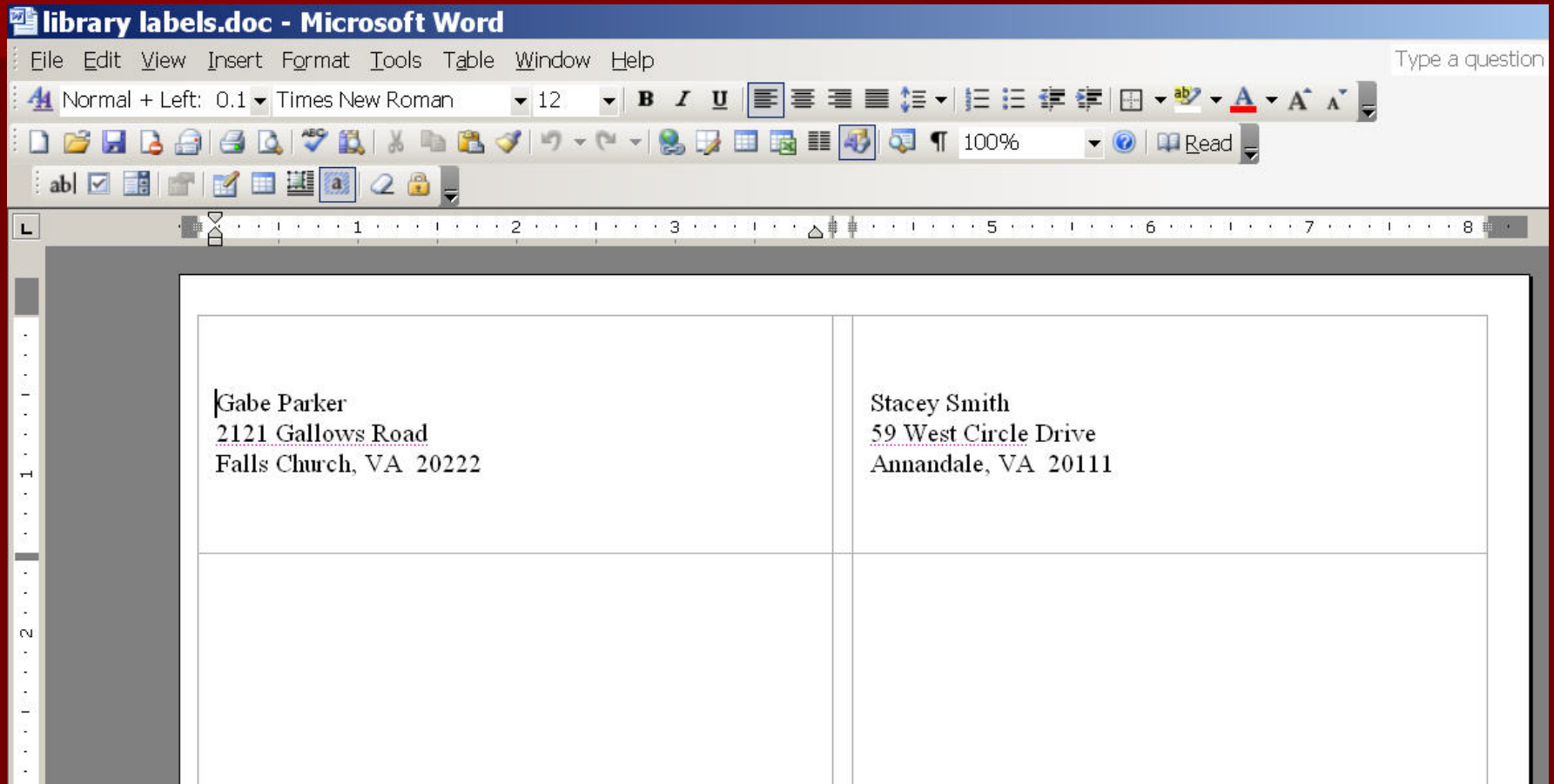
NN1	New Release DVD	5.75		
NN2	New Release VHS	5.75		
NNR1	Non New Release DVD	5.75		
NNR2	Non New Release VHS	3.25		
VG	Video Game	5.99		
C full	Console Rental/wk full	125.00	Fee	Paid
C par	Console Rental/wk par	110.00	NR1, NR1, NR1	17.25
			NR1, NR2, NNR1	0.00
	Paul <u>Renolt</u>		NR1	5.75
	Susan <u>Cozza</u>		NNR 1, NNR1, VG	0.00
	Mark Hatfield		VG, VG, VG	10.00
	Joe Cummins		NR1	0.00
	George Allen		NR1, VG	0.00
	Pat Fisher		NR1, NNR 2, NNR 2	15.00

Bookkeeping (con't)

Custom Discover
Setup for task

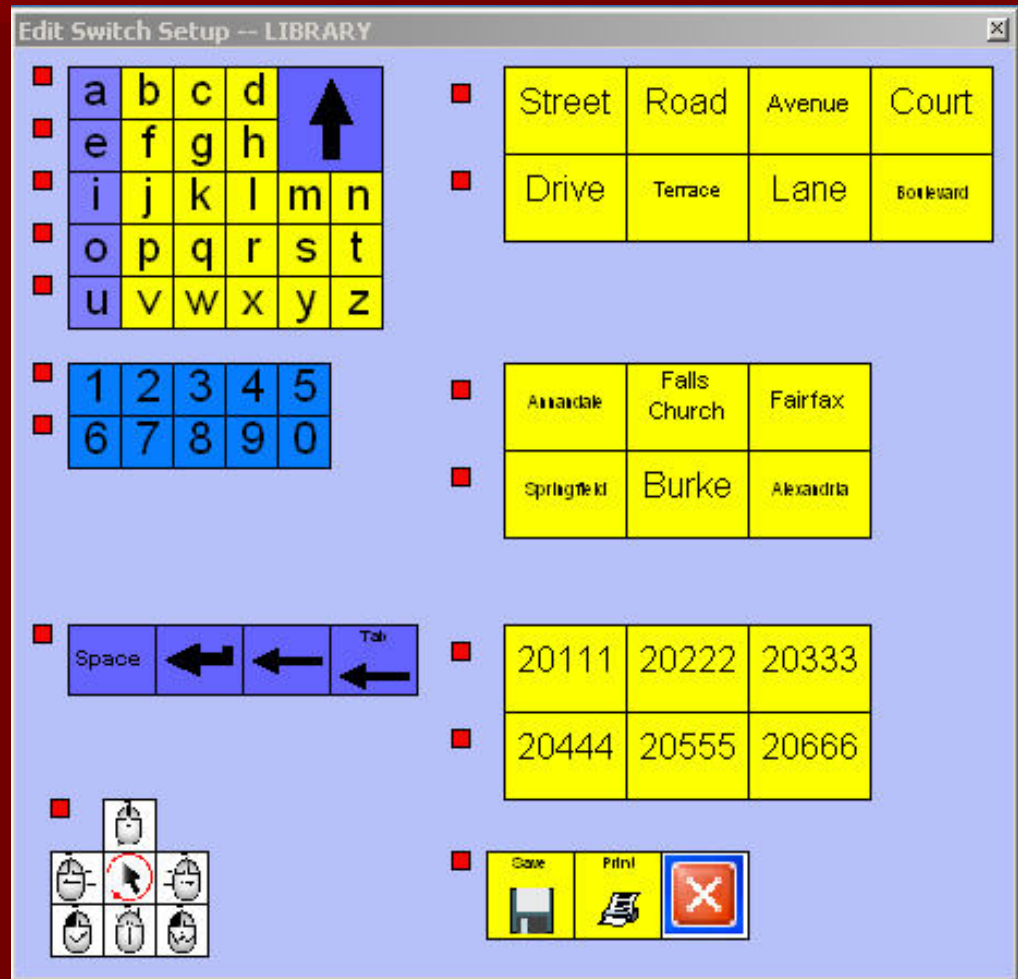


Library Applications



Library (Con't)

Custom Discover
Setup for task



Hospice Database

Microsoft Access

File Edit View Insert Format Records Tools Window Help

volunteers

Regional Office	FC D&E
Primary Job	SPEAKERS BUREAU
How long a Hospice Volunteer	1-3 YEARS
Work Frequency	MONTHLY
I would like to work:	MORE

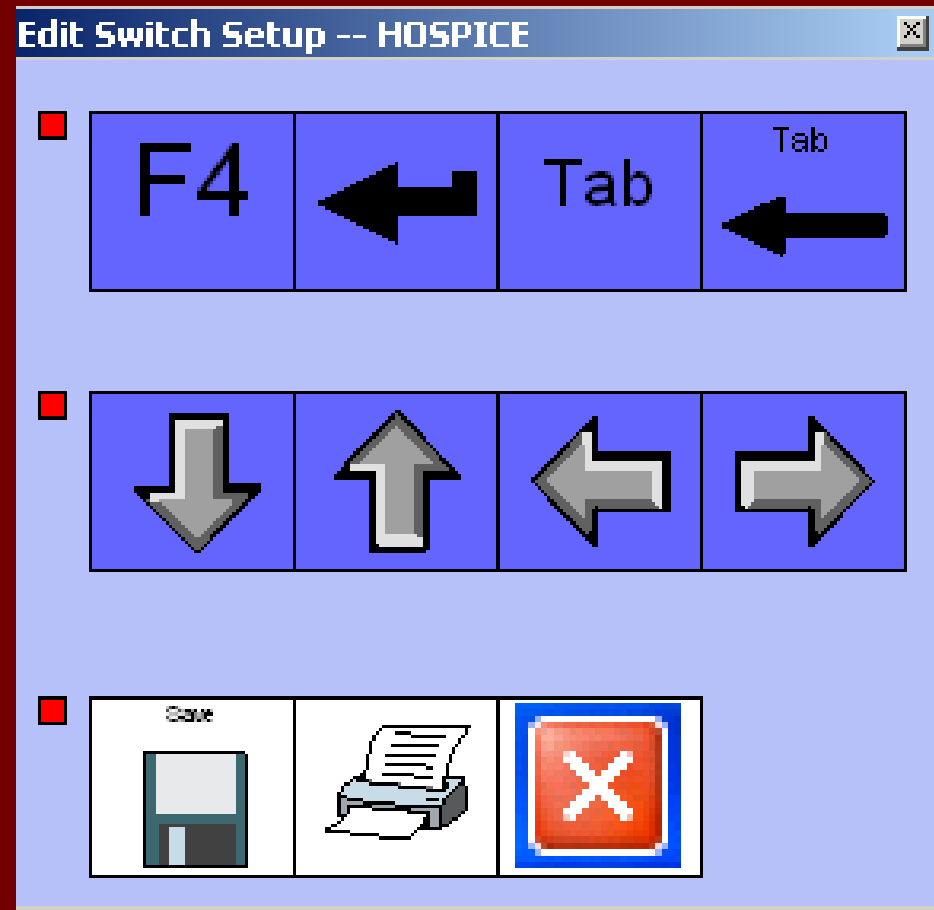
SD-STRONGLY DISAGREE D-DISAGREE N-NEUTRAL A-AGREE SA-STRONGLY AGREE

I feel that the work I do directly supports the mission of The Hospices	SA
I have a clear understanding of my job desc and requirements	N
Overall I am satisfied with The Hospices volunteer program	D
The training I receive allows me to perform well in my job	SA

Record: 1 of 6

Hospice (Con't)

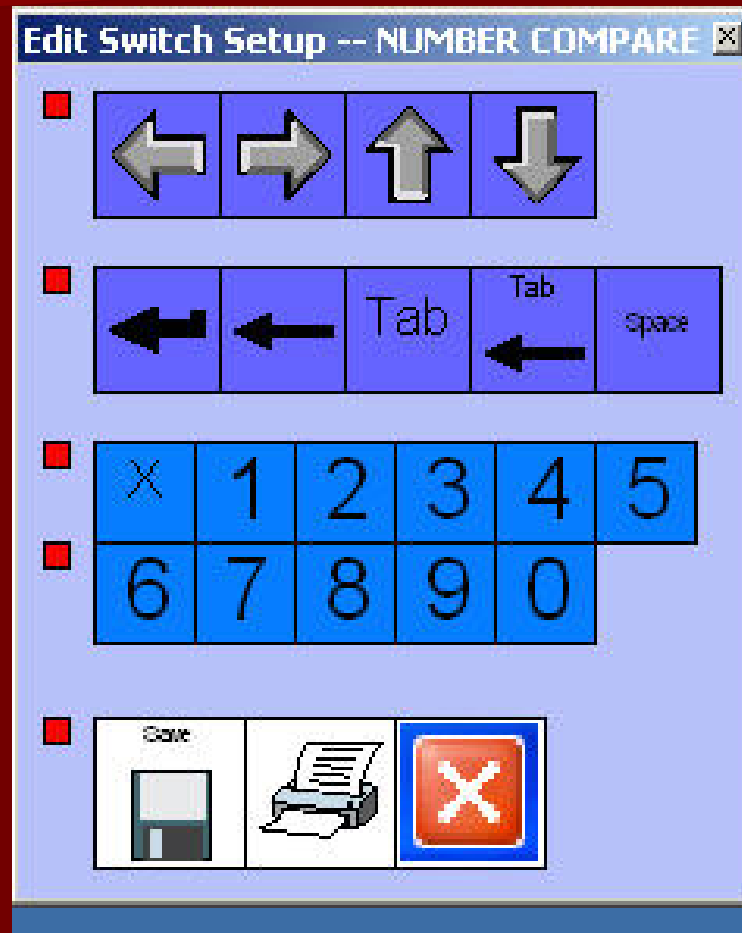
Custom Discover
Setup for task



Number Comparison (MS Excel)

Correct	Compare	Correction
62 85	62 83	62 85
33 21	33 21	
35 76	35 76	
41 15	41 15	
49 47	49 07	
66 80	66 80	
89 08	89 88	
34 25	34 25	

Number Comparison (con't)



Attainment Computers at Work

Data Entry [X]

Cust #: **HAG197**

Cust Info

Name: **PAUL MASSEY**

Company: **HAGERSBROWN JUNIOR COLLEGE**

Address: **609 SOUTH SR**

City: **HAGERSTOWN**

State: **MD**


Zip: **21740** - ☐ find zip+4

Exit **Cancel** **OK**

Order Processing [X]

Order #: **194**

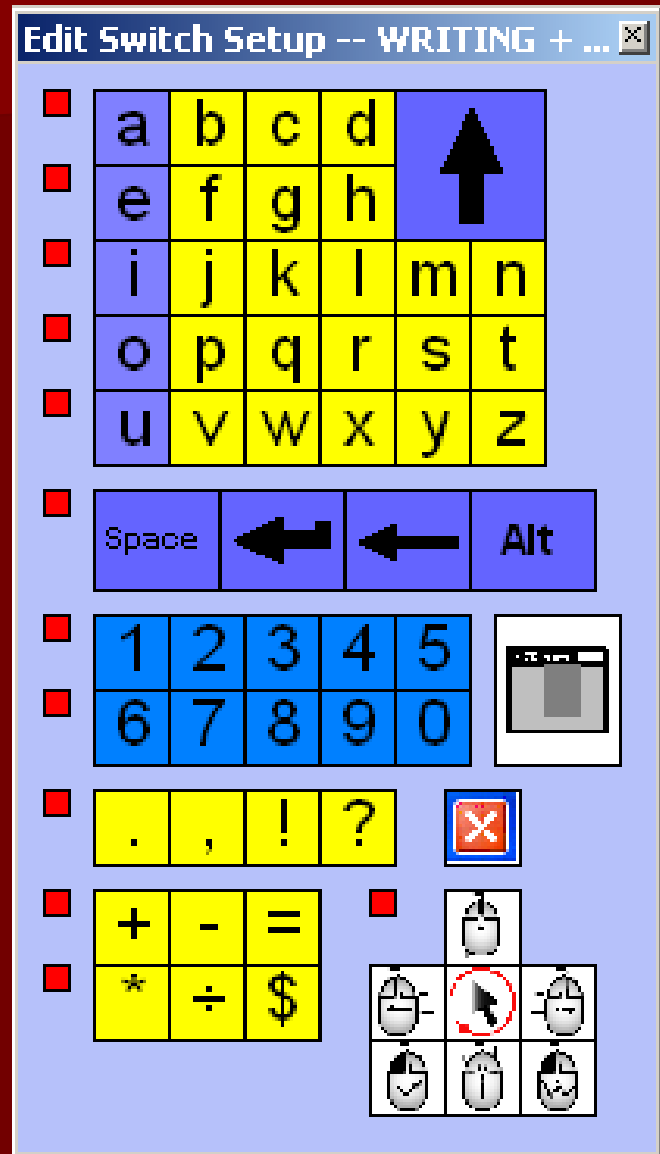
Billing		Order	Inventory	
Qty	Item	Product	Price	Total
1	P45	Pencil holder	\$ 1.55	\$ 1.55
<input type="text"/>	<input type="text"/>			
<input type="text"/>	<input type="text"/>			
<input type="text"/>	<input type="text"/>			



Sub: \$ 1.55
Tax: .09
Total: \$ 1.64

Exit **Cancel** **OK**

Computers at Work (con't)



High End AAC

- Laptop and communication device in one
 - Dynavox Vmax
 - Echo 14
 - Ask nancy
- Windows XP based devices

Questions?